If you are using a printed copy of this procedure, and not the on-screen version, then you <u>MUST</u> make sure the dates at the bottom of the printed copy and the on-screen version match.

The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.

Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ

Training Office, Bldg. 911A.

#### C-A OPERATIONS PROCEDURES MANUAL

#### **ATTACHMENT**

4.120.2.e 2 O'Clock (PEER 11) Mode 24 Tests

C-A-OPM Procedures in which this Attachment is used.				
4.120.2				

## **Hand Processed Changes**

HPC No.	<u>Date</u>	Page Nos.	<u>Initials</u>	
		-		
	Approved:	Signature on File		
		llider-Accelerator Departm	nent Chairman	Date

# 4.120.2.e 2 O'Clock (PEER 11) Mode 24 Tests

### PASS SEMI-ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:	Checksum:			
Division B Software Filename and Checksum: Title:	Checksum:			
Initial testing complete:				
Test Team Leader's Name (Print):	Life Number:			
Test Team Leader's Name (Sign):	_ Date://			
Acceptance test procedure complete (following repairs and retesting if required)	•			
Acceptance test procedure complete (tonowing repairs and retesting in required)	•			
Test Team Leader's Name (Print):	Life Number:			
Test Team Leader's Name (Sign):	_ Date:/			
Test results reviewed by:				
Test results reviewed by:				
Safety Section Head's Name (Print):	Life Number:			
Safety Section Head's Name (Sign):	Date://			
Test results accepted by Radiation Safety Committee:				
10st results accepted by Nationalian Saiety Committee.				
RSC Member's Name (Print):	_ Life Number:			
RSC Member's Name (Sign):	Date:/			

# 1.1 Verify necessary conditions for Mode 24

PLACE VERIFY	Peer 11 in Mode 16 Peer 11 is in Controlled Access	MODE 16
RESET	<b>Peer 11 gates:</b> 1GS1, 1EL1, 1GI1, 2MD1, 2GE1, 2MD2, 2GI1, 2GE2, 2MD3, 2EL1, 2ED1, and 3GI1	
VERIFY	<b>Peer 11 gates:</b> □ 1GS1, □ 1EL1, □ 1GI1, □ 2MD1, □ 2GE1, □ 2MD2, □ 2GI1, □ 2GE2, □ 2MD3, □ 2EL1, □ 2ED1, □ 3GI1 are	RESET
SWEEP VERIFY	<b>Peer 11 Zones:</b> □ 1Z1, □ 2Z1, □ 62Z2 are	SWEPT
PLACE VERIFY RECORD	Peer 11 in Mode 24 Peer 11 is in No Access Duration [ secs] of Beam Imminent Alarm	MODE 24
VERIFY	<b>Red No Access Light</b> at Gates: □ 2GE1, □ 2GE2 is	ILLUMINATED
PLACE VERIFY	Peer 11 in Mode 16 Peer 11 is in Controlled Access	MODE 16
REMOVE VERIFY PLACE	Reset from gate 2GE2 MCR sees gate 2GE2 is Peer 11 in Mode 24	NOT RESET
VERIFY RESET	Attempt to place Peer 11 in No Access Mode Gate 2GE2	FAIL
VERIFY PLACE	MCR sees gate 2GE2 Peer 11 in Mode 24	RESET
VERIFY	MCR sees Peer 11 in No Access	MODE 24
PLACE VERIFY	Peer 11 in Mode 16 Peer 11 is in Controlled Access	MODE 16
REMOVE VERIFY	Sweep from zone 1Z1 MCR sees zone 1Z1 is	NOT SWEPT
PLACE VERIFY	Peer 11 in Mode 24 Attempt to place Peer 11 in No Access Mode	FAIL
SWEEP VERIFY	Zone 1Z1 MCR sees zone 1Z1	SWEPT
PLACE VERIFY	Peer 11 in Mode 24 MCR sees Peer 11 in No Access	MODE 24
PLACE VERIFY	Peer 11 in Mode 16 Peer 11 is in Controlled Access	MODE 16

<sup>☐</sup> Check for test acceptance of Verify necessary conditions for Mode 24

1.2 Verify System Response to Opening a Gate while in Mode	Mode 24	while in	ı Gate v	pening a	to (	Response	Svstem	Verify	1.2
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PLACE	Peer 11 in Mode 24	
VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
WAIT	For Beam Imminent Alarm to stop sounding	
PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
VERIFY	MCR sees RHIC CD	<b>ENABLED</b>
VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
VERIFY	MCR sees RHIC Injection CD	ENABLED
FOLLOW	Test schedule in Table 1, below	

FOLLOW	Test schedule in Table 1, below

Open gate	Verify Peer 11 go to Mode 2	Verify sweep lost	Verify RHIC CD =RC	Verify Permit Link is disabled	Verify RHIC Inj. CD = RCI	PLACE Peer 11 in Mode 24	Verify Peer 11 in Mode 24 & alarm stop	PRESS RHIC prmy BS w/draw	Verify RHIC CD is enabled	Verify RHIC Permit link is enabled	Verify RHIC Ijn. CD is enabled & on to next gate
2GE1											
2GE2											
3GI1											

**Table 1- Test of Gates in Mode 24** 

	Check for test acceptance of	Verify System 1	Response to (	Opening a	Gate while in	Mode 24
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### 1.3 Verify Entry gates are securely locked in Mode 24

VERIFY WAIT	MCR sees Peer 11 in No Access For Beam Imminent Alarm to stop sounding	MODE 24
OPEN	Gate 2GE1 with #14 Key and Simultaneous Release	
VERIFY	Attempt to open gate 2GE1 with #14 Key and Simultaneous Release	FAIL
OPEN	Gate 2GE1 with Super Blue Card	
VERIFY	Attempt to open gate 2GE1 with Super Blue Card	<b>FAIL</b>
	WAIT  OPEN VERIFY OPEN	WAIT For Beam Imminent Alarm to stop sounding  OPEN Gate 2GE1 with #14 Key and Simultaneous Release VERIFY Attempt to open gate 2GE1 with #14 Key and Simultaneous Release OPEN Gate 2GE1 with Super Blue Card

☐ Check for test acceptance of Verify Entry gates are securely locked in Mode 24

# 1.4 Verify System Response to Pulling a Crash Cord while in Mode 24

	PLACE VERIFY	Peer 11 in Mode 24 MCR sees Peer 11 in No Access	MODE 24
	WAIT	For <b>Beam Imminent Alarm</b> to <b>stop</b> sounding	
	PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
	VERIFY	MCR sees RHIC CD	ENABLED
	<b>VERIFY</b>	MCR sees RHIC Permit Link	<b>ENABLED</b>
	VERIFY	MCR sees RHIC Injection CD	<b>ENABLED</b>
	PULL	Any Zone 1Z1 crash cord [ System #:]	
	VERIFY	Peer 11 goes to	MODE 2
	VERIFY	Sweep is	LOST
	VERIFY	MCR sees RHIC CD	DISABLED
	VERIFY	MCR sees RHIC Permit Link	DISABLED
	VERIFY	MCR sees RHIC Injection CD	DISABLED
	REARM	Crash device	
	RESET	Crash at MCR	
	VERIFY	Crash is	RESET
	PLACE	Peer 11 in Mode 24	
	VERIFY	Peer 11 is in Beam Imminent Mode	MODE 24
	PULL	Any Zone 1Z1 crash cord [ System #: ] while alarm is sounding	
	VERIFY	Beam Imminent alarm	STOPS
	VERIFY	Peer 11 has moved to	MODE 2
	VERIFY	MCR sees Zone 1Z1	CRASHED
	PLACE	Peer 11 in Mode 8 (Restricted Access)	
	VERIFY	Attempt to go to Mode 8	FAIL
	REARM	Crash device	
_	RESET	Crash at MCR	DECEM
	VERIFY	Crash is	RESET
_	PLACE	Peer 11 in Mode 8	MODE
	VERIFY	MCR sees Peer 11 in Restricted Access	MODE 8
	PLACE	Peer 11 in Mode 24	
	VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
	WAIT	For Beam Imminent Alarm to stop sounding	
	PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
	VERIFY	MCR sees RHIC CD	ENABLED
	VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
	VERIFY	MCR sees RHIC Injection CD	<b>ENABLED</b>
	PULL	Any Zone 2Z1 crash cord [ System #:]	
	VERIFY	Peer 11 goes to	MODE 2
	<b>VERIFY</b>	Sweep is	LOST
		-	

	VERIFY VERIFY VERIFY	MCR sees RHIC CD MCR sees RHIC Permit Link MCR sees RHIC Injection CD	RC DISABLED RCI
	REARM	Crash device	
	RESET VERIFY	Crash at MCR Crash is	RESET
Ц	VERIT I	Ci asii is	KESE I
	PLACE	Peer 11 in Mode 24	
	VERIFY	Peer 11 is in Beam Imminent Mode	<b>MODE 24</b>
	PULL	Any Tong 271 group coud [ System #s ] while	
	I OLL	Any Zone 2Z1 crash cord [ System #: ] while alarm is sounding	
		and in is sounding	
	<b>VERIFY</b>	Beam Imminent alarm	STOPS
	VERIFY	Peer 11 has moved to	MODE 2
	VERIFY	MCR sees Zone 2Z1	CRASHED
	PLACE	Peer 11 in Mode 8 (Restricted Access)	
	VERIFY	Attempt to go to Mode 8	FAIL
	REARM	Crash device	
	RESET	Crash at MCR	
	VERIFY	Crash is	RESET
	PLACE	Peer 11 in Mode 8	
	VERIFY	MCR sees Peer 11 in Restricted Access	MODE 8
	PLACE	Peer 11 in Mode 24	
	VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
	WAIT	For Beam Imminent Alarm to stop sounding	
	PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
	VERIFY	MCR sees RHIC CD	ENABLED
	VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
	VERIFY	MCR sees RHIC Injection CD	<b>ENABLED</b>
	PULL	Any <b>Zone 2Z2 crash cord</b> [ <b>System #:</b> ]	
	VERIFY	Peer 11 goes to	MODE 2
	VERIFY	Sweep is	LOST
	VERIFY	MCR sees RHIC CD	RC
	VERIFY	MCR sees RHIC Permit Link	DISABLED
	VERIFY	MCR sees RHIC Injection CD	RCI
	REARM	Crash device	
	RESET	Crash at MCR	
	VERIFY	Crash is	RESET
	PLACE	Peer 11 in Mode 24	
	VERIFY	Peer 11 is in Beam Imminent Mode	MODE 24
	PULL	Any Zone 2Z2 crash cord [ System #: ] while alarm is sounding	
	VERIFY	Beam Imminent alarm	STOPS
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		<b>VERIFY</b>	Peer 11 has moved to	MODE 2
		VERIFY	MCR sees Zone 2Z2	CRASHED
		PLACE	Peer 11 in Mode 8 (Restricted Access)	
		VERIFY	Attempt to go to Mode 8	FAIL
		REARM	Crash device	
		RESET	Crash at MCR	
		VERIFY	Crash is	RESET
		PLACE	Peer 11 in Mode 8	
		VERIFY	MCR sees Peer 11 in Restricted Access	MODE 8
		PLACE	Peer 11 in Mode 24	
		<b>VERIFY</b>	MCR sees Peer 11 in No Access	<b>MODE 24</b>
		WAIT	For Beam Imminent Alarm to stop sounding	
		PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
		VERIFY	MCR sees RHIC CD	ENABLED
		VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
		VERIFY	MCR sees RHIC Injection CD	<b>ENABLED</b>
	Chec	k for test acce	ptance of Verify System Response to Pulling a Crash Cord while in M	ode 24
1.5	V	erify System l	Response to ODH trip while in Mode 24	
		PLACE	Peer 11 in Mode 24	
		VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
		WAIT	For Beam Imminent Alarm to stop sounding	
		PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
		VERIFY	MCR sees RHIC CD	ENABLED
		VERIFY	MCR sees RHIC Permit Link	ENABLED
		VERIFY	MCR sees RHIC Injection CD	ENABLED
	_	TRIP	<b>ODH sensor</b> using test button, following <b>Table 2</b> , below	· <b></b>
			= == ====== = = === = = = = = = = = =	

ODH sensor	Trip sensor	Verify Peer 11 stays in Mode 24	Verify BS with- draw ok	Verify Rhic CD is enabled	Verify Permit link is enabled	Ver-ify Rhic Inj. CD enabled	Verify strobe on	Verify son- alert on	Verify fans & vents off	Verify Peer 11 in Mode 24 & alarm stop	Verify Rhic CD is enabled	Verify Rhic Permit link is enabled	Verify Rhic Ijn. CD is enabled & on to next sensor
1AS3/A													
1AS3/B													
2XAS2/A													
2XAS2/B													
2AS1/A													
2AS1/B													

Table 2 – Test of ODH sensors in Mode 24

☐ Check for test acceptance of Verify System Response to ODH trip while in Mode 24

### 1.6 Test Emergency fan ON/OFF controls at 2GE2 in Mode 24

	PLACE	Peer 11 in Mode 24	
	<b>VERIFY</b>	MCR sees Peer 11 in No Access	MODE 24
	WAIT	For <b>Beam Imminent Alarm</b> to stop sounding	
	PRESS	Emergency fan <b>ON</b> button at gate <b>2GE2</b>	
	WAIT	For <b>90 sec</b> timeout counter	
	VERIFY	Fan 1EF2 is	ON
	<b>VERIFY</b>	Fan <b>1EF3</b> is	ON
	<b>VERIFY</b>	Fan <b>1EF4</b> is	ON
	<b>VERIFY</b>	Vent 1AV1 is	OPEN
	VERIFY	Vent 1AV2 is	OPEN
	VERIFY	Vent 1AV3 is	OPEN
	VERIFY	Fan <b>2XEF1</b> is	ON
	VERIFY	Fan <b>2EF1</b> is	ON
	VERIFY	Fan <b>2EF2</b> is	ON
	VERIFY	Fan <b>3EF1</b> is	ON
	VERIFY	Vent <b>2XAV1</b> is	OPEN
	VERIFY	Vent 2XAV2 is	OPEN
	VERIFY	Vent 2XAV3 is	OPEN
	<b>VERIFY</b>	Vent 2AV1 is	OPEN
	VERIFY	Vent 2AV2 is	OPEN
	VERIFY	Vent 3AV1 is	OPEN
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Revision 00 November 29, 2004

PRESS WAIT	Emergency fan <b>OFF</b> button at gate <b>2GE2</b> For <b>90 sec</b> timeout counter	
VERIFY	Fan 1EF2 is	OFF
VERIFY	Fan <b>1EF3</b> is	OFF
VERIFY	Fan <b>1EF4</b> is	OFF
VERIFY	Vent 1AV1 is	CLOSED
VERIFY	Vent 1AV2 is	CLOSED
VERIFY	Vent 1AV3 is	CLOSED
VERIFY	Fan <b>2XEF1</b> is	OFF
VERIFY	Fan <b>2EF1</b> is	OFF
VERIFY	Fan <b>2EF2</b> is	OFF
VERIFY	Fan <b>3EF1</b> is	OFF
VERIFY	Vent 2XAV1 is	CLOSED
VERIFY	Vent 2XAV2 is	CLOSED
VERIFY	Vent 2XAV3 is	CLOSED
VERIFY	Vent 2AV1 is	CLOSED
VERIFY	Vent 2AV2 is	CLOSED
VERIFY	Vent 3AV1 is	CLOSED

☐ Check for test acceptance of Test Emergency fan ON/OFF controls at 2GE2 in Mode 24

## 1.7 Test MCR reset of Emergency ON/OFF at 2GE2 in Mode 24

VERIFY	MCR sees Peer 11 in No Access	MODE 24
PRESS	Emergency fan <b>ON</b> button at gate <b>2GE2</b>	
WAIT	For <b>90 sec</b> timeout counter	
VERIFY	Fan <b>1EF2</b> is	ON
VERIFY	Fan <b>1EF3</b> is	ON
VERIFY	Fan <b>1EF4</b> is	ON
VERIFY	Vent 1AV1 is	OPEN
VERIFY	Vent 1AV2 is	OPEN
VERIFY	Vent 1AV3 is	OPEN
VERIFY	Fan <b>2XEF1</b> is	ON
VERIFY	Fan <b>2EF1</b> is	ON
VERIFY	Fan <b>2EF2</b> is	ON
VERIFY	Fan <b>3EF1</b> is	ON
VERIFY	Vent 2XAV1 is	OPEN
VERIFY	Vent 2XAV2 is	OPEN
VERIFY	Vent 2XAV3 is	OPEN
VERIFY	Vent 2AV1 is	OPEN
VERIFY	Vent 2AV2 is	OPEN
VERIFY	Vent 3AV1 is	OPEN
PRESS	Emergency fan <b>OFF</b> button at <b>MCR</b>	
WAIT	For 90 sec timeout counter	

[	<b>VERIFY</b>	Fan <b>1EF2</b> is	OFF
	<b>VERIFY</b>	Fan <b>1EF3</b> is	OFF
	<b>□ VERIFY</b>	Fan <b>1EF4</b> is	OFF
	<b>VERIFY</b>	Vent 1AV1 is	CLOSED
[	<b>□ VERIFY</b>	Vent 1AV2 is	CLOSED
	<b>VERIFY</b>	Vent 1AV3 is	CLOSED
[	<b>VERIFY</b>	Fan 2XEF1 is	OFF
	VERIFY	Fan <b>2EF1</b> is	OFF
-	VERIFY	Fan <b>2EF2</b> is	OFF
	VERIFY	Fan <b>3EF1</b> is	OFF
_	VERIFY	Vent 2XAV1 is	CLOSED
· <del>-</del>	VERIFY	Vent 2XAV2 is	CLOSED
_	VERIFY	Vent 2XAV3 is	CLOSED
· <del>-</del>	VERIFY	Vent 2AV1 is	CLOSED
_	VERIFY	Vent 2AV2 is	CLOSED
· <del>-</del>	VERIFY	Vent 3AV1 is	CLOSED
L	J VERIFT	VOIR JAVI 15	CLOSED
	□ Check for	r test acceptance of Test MCR reset of Emergency ON/OFF at 2	GE2 in Mode 24
1.8	Test local fan co	ntrols in service building 1002B Mode 24	
	<b>□ VERIFY</b>	MCR sees Peer 11 in No Access	MODE 24
	PRESS	Fan <b>ON</b> button at fan box	
[	VERIFY	<b>1002B fan</b> is	ON
[	<b>□ VERIFY</b>	<b>1002B vent</b> is	<b>OPENED</b>
	TURN OFF	1002B fan using MCR Fan OFF button	
	<b>□ VERIFY</b>	Attempt to turn off 1002B fan using MCR Fan OFF button	FAIL
	PRESS	Fan <b>OFF</b> button at fan box	
Г	□ VERIFY	1002B fan is	OFF
	VERIFY	1002B vent is	CLOSED
	☐ Check for	test acceptance of Test local fan controls in service building 100	2B Mode 24
1.9 T	est Division A lo	ss of Remote I/O in Mode 24	
	<b>□ VERIFY</b>	<b>CD</b> key switch is set for	XY ARCS
	VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
_	PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
Г	□ VERIFY	MCR sees RHIC Injection Inhibit	OFF
	VERIFY	MCR sees RHIC Ring Inhibit	OFF
_	VERIFY	MCR sees RHIC Permit Link	ENABLED
	VERIFY	MCR sees RHIC Injection CD on CD page	DISABLED
	UNPLUG	Remote I/O cable from Scanner module in Peer 11A	
r	□ VERIFY	MCR sees CDev I/O	NG
			MODE 2
	<ul><li>VERIFY</li><li>VERIFY</li></ul>	MCR sees Peer 11 Div A go to MCR sees RHIC Injection Inhibit Div A	MODE 2 ON
L	_ vekii i	Men sees with injection minor Div A	O11
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		VERIFY	MCR sees RHIC Ring Inhibit Div A	ON
		VERIFY	MCR sees Div A RHIC Permit Link	DISABLED
		<b>VERIFY</b>	MCR sees RHIC Injection CD	DISABLED
		REPLACE	Remote I/O cable at Scanner module in Peer 11A	
		RESET	NG CDev I/O condition at MCR	
		VERIFY	MCR sees CDev I/O	OK
		□ Check for	r test acceptance of Test Division A loss of Remote I/O in Mode 24	
1.10	To	est Division B	loss of Remote I/O in Mode 24	
		VERIFY	<b>CD</b> key switch is set for	XY ARCS
		VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
	_	PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
		VERIFY	MCR sees RHIC Injection Inhibit	OFF
		VERIFY	MCR sees RHIC Ring Inhibit	OFF
		VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
		VERIFY	MCR sees RHIC Injection CD on CD page	DISABLED
		UNPLUG	Remote I/O cable from Scanner module in Peer 11B	
		VERIFY	MCR sees CDev I/O	NG
		VERIFY	MCR sees Peer 11 go to	MODE 2
		VERIFY	MCR sees RHIC Injection Inhibit Div B	ON
		VERIFY	MCR sees RHIC Ring Inhibit Div B	ON
		VERIFY	MCR sees Div B RHIC Permit Link Div B	DISABLED
		VERIFY	MCR sees Div B RHIC Injection CD	DISABLED
		V EXCEL 1	Heat sees 21, 2 Mille injection 62	
		REPLACE	Remote I/O cable at Scanner module in Peer 11B	
		RESET	NG CDev I/O condition at MCR	
		VERIFY	MCR sees Cdev I/O	OK
		Check for	test acceptance of Test Division B loss of Remote I/O in Mode 24	
1.11	Sv	veep tests in M	Iode 24	
		RESET	<b>Peer 11 gates:</b> 1GS1, 1EL1, 1GI1, 2MD1, 2GE1, 2MD2, 2GI1, 2GE2, 2MD3, 2EL1, 2ED1, and 3GI1	
		VERIFY	<b>Peer 11 gates:</b> $\Box$ 1GS1, $\Box$ 1EL1, $\Box$ 1GI1, $\Box$ 2MD1, $\Box$ 2GE1,	
	_		$\square$ 2MD2, $\square$ 2GI1, $\square$ 2GE2, $\square$ 2MD3, $\square$ 2EL1, $\square$ 2ED1, $\square$ 3GI1 are	RESET
		SWEEP	Peer 11 Zones: 1Z1, 2Z1, 2Z2	
	П	VERIFY	<b>Peer 11 Zones:</b> $\Box$ 1Z1, $\Box$ 2Z1, $\Box$ 62Z2 are	SWEPT
	_	PLACE	Peer 11 in Mode 24	~ · · · · · ·
	П	VERIFY	Peer 11 is in No Access	MODE 24
		PLACE	Peer 11 in Mode 16	MIODE AT
		VERIFY	Peer 11 is in Controlled Access	MODE 16
		,	2 COL 22 IV III COMMONICA INCOME	IIIODE IU
		FOLLOW	Test Schedule in Table 3, below	

Zone	Gate	Open gate	Verify sweep lost	Verify cannot sweep with gate open	Close gate	Force sweep	Verify cannot go to Mode 24	Reset gate	Verify can go to Mode 24	Go to Mode 16 & next gate
1 <b>Z</b> 1	1GI1									
<b>2Z1</b>	2GE1									
2Z2	2GE2									

Table 3 – Sweep tests in Mode 24

☐ Check for test acceptance of Sweep tests in Mode 24

### 1.12 Chipmunk Tests in Mode 24

PLACE	Peer 11 in Mode 24	
VERIFY	MCR sees Peer 11 in No Access	<b>MODE 24</b>
WAIT	For Beam Imminent Alarm to stop sounding	
PRESS	RHIC Primary Beam Stop Withdraw button in MCR	
VERIFY	MCR sees RHIC CD	<b>ENABLED</b>
VERIFY	MCR sees RHIC Permit Link	<b>ENABLED</b>
VERIFY	MCR sees RHIC Injection CD	<b>ENABLED</b>
ATTACH	Test Box to Chipmunk prior to test	

C'munk	Press & verify div A trip	Verify Peer 11 stays in mode 24	Verify div A Rhic CD disabled	Verify div A Rhic permit link disabled	Verify div A Rhic Inj.CD disabled	Press pmry BS with- draw	Verify div A Rhic CD enabled	Verify div A Rhic permit link enabled	Verify div A Rhic Ijn. CD enabled	Goto table 5 for div B trip
C64										
C65			П	П	П		П	П		

Table 4 – Division A trip test in Mode 24

C'munk	Press & verify div B trip	Verify Peer 11 stays in mode 24	Verify div B Rhic CD disabled	Verify div B Rhic permit link disabled	Verify div B Rhic Inj.CD disabled	Press pmry BS with- draw	Verify div B Rhic CD enabled	Verify div B Rhic permit link enabled	Verify div B Rhic Ijn. CD enabled	Goto table 6 for div A fails
C64										
C65										

Table 5 – Division B Trip test in Mode 24

C'munk	Press & verify div A fails	Verify Peer 11 goes to mode 2	Verify div A Rhic CD disabled	Verify div A Rhic permit link disabled	Verify div A Rhic Inj.CD disabled	Place Peer 11 in mode 24 & alarm stop	Press pmry BS with- draw	Verify div A Rhic CD enabled	Verify div A Rhic permit link enabled	Verify div A Rhic Ijn. CD enabled	Goto table 7 for div B fails
C64	•					·					
C65											

Table 6 - Division A Fails test in Mode 24

C'munk	Press & verify div B fails	Verify Peer 11 goes to mode 2	Verify div B Rhic CD disabled	Verify div B Rhic permit link disabled	Verify div B Rhic Inj.CD disabled	Place Peer 11 in mode 24 & alarm stop	Press pmry BS with- draw	Verify div B Rhic CD enabled	Verify div B Rhic permit link enabled	Verify div B Rhic Ijn. CD enabled	See end of test instrns below
C64											
C65											

Table 7 - Division B Fails test in Mode 24

#### **End of Test Instructions:**

**DETACH** Test Box from Chipmunk after test

CONNECT Cable to Chipmunk
RESET Chipmunk faults at MCR

VERIFY MCR sees Chipmunk

OK

 $ATTACH \qquad Test \ Box \ {\rm to \ next \ } Chipmunk \ \ {\rm for \ test \ } / \ or \ end \ Chipmunk \ test$ 

START Test sequence at Table 4

☐ Check for test acceptance of Chipmunk Tests in Mode 24

# END OF TEST PROCEDURE

TTL: Sign for completion of initial testing:	
	Date:/
TTL: Sign for completion of final testing:	
	<b>Date:</b> / /